BRUHAT BANGALORE MAHANAGARA PALIKE

Project: Construction of RO water purifier plant at Balaji layout, devinagar and BB nagar in ward no. 8 kodigehalli, kodigehalli sub division.

Est Cost: =45.0Lakh

Sl. No.	Description of work	Unit	No.	Length m	Breadth m	Depth m	Quantity	Rate in Rs.	Amount in Rs.
1	Geophysical investigation of site for sinking Borewell for supplying drinking water to the habitation either through the Hand pump, MWS of P.W.S.S by vertical electrical sounding by adopting Venner or Schlumberger's method, including reconnaissance survey of geological formation, Gerophysical investigation of existing Ground Wate in the vicinity, its qualityf 1.0 meter in consolidated formation for proper seating of casing pipe, depth of drilling required to cover full depth of aquifer proposed to be tapped, probable yield and other information required including transportation of instrument and accessories to work site., engaging techinical personal and labour required etc., as per Specification and direction (P.48, I. 9.4) PRED.SR 2012-13	Each BW	3				3	1882.00	5646.0
2	Sinking borewell of 165 mm dia clear using super fast hydraulic rig of capacity 250 PSIG & above CFM & above in all strats including over burden upto 20 mts fixing of casing pipes, collars and cap with necessary cutting, throading and welding including transportation of rig and supporing vehicles, crew charges and cost of consumables etc., complete including yield testing at the final depth with a minimum working of compressor for one hour (excluding coat of casing pipes, collars, cap etc.,) P. 46 / I. 9.1 PRED SR 2012-13	Rmtr							
	0 to 50 m		3	50.00			150.00	306.00	45900.0
	50 to 100 m		3	50.00			150.00	400.00	60000.0
	100 to 150 m		3	50.00			150.00	445.00	66750.0
	150 to 200 m		3	50.00			150.00	470.00	70500.0
	200 to 250 m		3	50.00			150.00	544.00	81600.0
	250 to 300 m		3	0.00			0.00	583.00	0.0
3	Supply of ISI mark 175 mm nominal bore, Plain end steel casing pipe - grade of Steel Fee 410 of wall thickness 5.4mm thick confirming to IS 4270:2001 and latest amendments, electric resistance welded steel tube material and confirming to IS 1387/1993 and manufactured by baseic open hearth electric or basic oxygen process in random length of 5 to 7 mts both ends threaded confirming tio IS 554/1985, one end fixied with socket confirming to IS 4270:2001 and the other end with screwed pipes ISI Marking weighing 25.10Kg/mtr (Inclusive of all taxes and durties) Prices include Collar-medium duty P. iii, I No. 84 PRED SR 2012-13	Rmtr	3	50.00			150.00	1325.00	198750.0
4	Providing 250mm dia PVC Pipe 6kg/cm SE PRED Approved Rate	Rmtr	3	18.00			54.00	754.47	40741.0
5	Providing and fixing 160mm Borewell Cap P. iii, I No. 85	Each	3				3	100.00	300.0

6	Supply and delivery at site brand New texmo/ innoval/ Lubi/ Sabar / Atalanta/ Calamal/ make suitable for vertical installation in 150mm dia bore well comprising of single stage or multistage CF pump close coupled by measns of stainless steel coupling to suitable HP suitable speed totally enclosed and filled with pure drinking water (Wet type) squirrel cage submersible induction motor suitable for opertation of 3PH., 50 Hz, 380/440 volts AC supply fitted with required aqccessories such as suction, casing suction strainers sand guard Non return value etc. complete . The pump and motor shall form an integral unit with all the required fittings 12.50 HP 25 stage. ATALANTA< SUGNA< CRI, KIRLOSKAR and other Equivalent Pumps PWD SR 2016-17 P. XXXXII Item No. 24 including of all taxes									
	12.5 HP 25 Stage	No	3					3	60400	181200.0
7	Supplying of ISI marked galvanized mild steel tube (continously welded electric resistance welded (ERW) high frequency, induction welded (HFIW) Hot finished welded type of nominal bore given below screwed at both ends as per IS 554/1986 with latest amendments, pipes threaftes at one end and the other end protected asper specification in random lengths of 4 to 7 mtrs Confirming to IS 1239 part I/1990 with amendament 1-5 and with all its latest amendements if any. The pipes supplied should be with BIS mark No 3/08-09 2406/15.10.2008									
		Rmtr	3	250.00			750.00	375.00	281250.0
8	Heavy Duty Collar 50 mm dia	Nos	132				132	130.00	17160.0
9	Supplying and drawing 3 core flat PVC sheathed submersible pump cable manufactured with electrolytic grade copper with flexible copper with low resistance conductor confirming to table 3 class 5 of IS:8130-1984 and virgin grade PVC insulation and powder coating extruded PVC sheathed suitable for working voltage upto 1100Volts as per IS-694:1990 & confirming to GTP of GROUP-A. P. No. 12 / I No. 2.10.4(1) 3C x 6 Sqm mm KPWD Electrical SR 2014-15									
		Mtr	6	255.00			1530.00	188.70	288711.0
10	Erection of pumpset including aligning and balancing with all necessary erection materials and labour including supply and erection of one pair supporting clamps, one borewell cap. Cable clips with bolts, nuts, valves guages etc., involoved in the job (Necessary GI pipe and specials with be supplied by the board at the site free of cost) (As per rate approved KUWS & DB for year 2008-09									
		No	3				3	3000.00	9000.0
11	Supplying and fixing 20"x20"x2.5" polished wood board made of not less than 15mm thick plank on both sides with planks made out of not more than 2 pieces and fixing the same to the wall using tapered inverted wooden plugs screws etc., P No. 44 / I No. 6.6.6 KPWD Electrical SR 2014-15									
		Each	3				3	302.00	906.0

12	Supplying of 1.1 KV LT UG cable having aluminum conductor PVC insulated, extruded inner sheathed, galvanized, steel strip (except 2CX10Sq.mm wire armoured) confirming to IS-3975:1990 (No. of Strip indicated in GTP) & extruded PVC outer sheathed armoured cable with specified IS-1554 Part-1:1988 & confirming to GTP of GROUP-A P No. 55/ I No. 7.4.4 4 core 16 Sqmm KPWD Electrical SR 2014-15	Mtr							
			3	30.00			90.00	140.40	12636.0
13	Labour charges for laying of 1.1 KV class UG cable in existing trench GI pipe / stoneware pipe / on wall / on pole as required.In existing trench/duct. P No. 61 / I No. 7.8.1 6Sqmm to 16 Sqmm) KPWD Electrical SR 2014-15	Mtr							
			3	30.00			90.00	10.80	972.0
14	Digging of trench of 0.6m deep x 0.50 mtr wide refilling the trench to the required ground level and consolidating etc., complete.(As per Civil SR KSRB I-2, P-7) P No. 61 / I. No. 7.9.3 KPWD Electrical SR 2014-15	Mtr							
	For Cutting Road Surface.		3	25.00			75.00	85.00	6375.0
15	Supplying and fixing of class A (medium duty) GI pipe of wall thickness not less than 3.25mm on pole/wall/drain crossing with necessary clamping arrangements for UG cable of 1.1 KV P. No. 62 / I No. 7.12.1 KPWD Electrical SR 2014-15	Mtr							
	40mm dia GI pipe		3	4.00			12.00	345.00	4140.0
16	Supplying and fixing L.T. cast Iron pot heads suitable for 1.1 KV class UG cable filled with necessary bitumen/insulating compound complete with terminals, clamps, bolts, nuts and washers etc., P. No. 62 / I.No. 7.13.2 KPWD Electrical SR 2014-15	No.							
	16Sqmm		3				3.00	280.00	840.0
17	Supplying, fixing, wiring, earth electrode for grounding conduits, I.C. cutouts and other equipment's on the meter board using 40mm dia 2.90mm thick GI pipe 2.5 mtr long buried in a pit ... The pit should be filled with equal proportion of salt and charcoal 150mm all-round the pipe to complete depth. The connection from the pipe to the conduit etc., is to be established through GI wire of size as per ISI specification 7.3.3. of IS 732 using 12mm dia bolts, nuts, washers and check nuts etc., the pipe shall have 16 through holes of 122 mm dia, (P No. 55, I No. 7.1) KPWD Electrical SR 2014-15	No							
			3				3	2727.00	8181.0
18	Supplying & fixing of Porcelain fuse channel with cut out on existing wooden/panel using necessary nuts, bolts and washers.P No. 44 / I No. 6.7.2 KPWD Electrical SR 2014-15	No.							
	32 Amps		18				18	180.00	3240.0
19	KSRB 13-7.1-4: Providing and fixing in position 50mm nominal bore gun metal non-return valve horizontal type of approved make including cost of all materials, labour and HOM of equipments with all leads complete as per specifications NO KBS 13.2.16 / 13.13 Page No. 93 Item No. 13.55 / PWD SR 2016-17	Nos							
			3				3	1615.68	4847.0
	Basic Rate	1496.00							
	Area Weightage @ 8%	119.68							
	Total	1615.68							

20	Providing NP/CP waste unions conforming to ISI specifications and fixing them in position as per directions including cost of materials, fixtures and conveyance to work spot etc., complete. P. No. 95 / I. No. 13.81.3 PWD SR 2016-7	No							
	50mm dia		3				3	232.20	697.0
	Basic Rate	215.00							
	Area Weightage @ 8%	17.20							
	Total	232.20							
21	Supplying and fixing 50mm dia GI X nipple with ISI mark with all lead and lift loading unloading and labour charges etc complete	No							
			3	4.00			12	80.00	960.0
22	Supplying shunt capaitors conforming to IS 2834, 3phase 400/440 volts grade for power factor improvement of rotating machinery, Capacitor in KVAR rating Nos. 2KVAR capacity with all lead and lift =, loading, unloading and labour charges etc complete as per specifications	No							
			3				3	350.00	1050.0
23	Supplying and fixing miniature circuit breakers on existing MCB distribution boards using necessary fixing materials and 'C' Type curve, indicator ON/OFF, energy cross-3 with Short circuit breaking capacity of 10K and complete wiring as required confirming to IEC 60898. 5-32Amps TPN P No. 47 / I No.6.16.5 KPWD SR 2014-15	No							
			3				3	1547.00	4641.0
24	Fabricating supplying and mounting MS box made out ... SWG suitable for floor / wall mounting, fully weather proof with provision for better heat dissipation, provided with hinged front cover, equipped with tamper proof locking arrangements, with suitable size clamps with necessary cable entry pipe with gland and box should be finished with 2 coats of red oxide primer paint and finally finished with approved colour enameled metal paint etc., complete P.No. 49, I. No. 6.40.2 KPWD Electrical SR 2014-15	Sq.Cm							
	16SWG		6	120.00	60.00		43200		
			3	300.00	25.00		22500		
							65700	0.33	21681.0
25	Supplying and delivery at site brand new star / Essen/ Lotus/Sun-shines/Adarsh/ GK Controls best indigenous make combined energy meter - cum- control panel board unit of size 600x450 x200 mm minimum mechanically strong vermin and water proof. The unit shall have two detachable doors suitable for operation on 3 ph, 50Hz, 380/440 volts, A.C supply with spring loaded latch, locking device with a key ribs should be provided inside the door, canopy apron and louvers ventilators shall be provided. the combined energy meter cum- control panel board unit suitable for operation. The panel board shall be fabricated on single unit in the above components for suitable pumpset. 12.5HP to 15 HP Star Delta Starter SERDED Rate	No.							
			3				3	11000	33000.0
26	Earthwork excavation for pipeline trenches including deporiting or bank up to a lead of 50 mtrs including shiriry and statting danger lighting and using site rails and boming poles at every 100 mtrs wherever necessary as directed in th following strructure manhole. Page No. 01/ Item No.1.2.2 / PRED SR 2012-13 Hard Soil	Cum							
			3	60.00	0.60	0.75	81.00		

	Basic Rate	188.00					81.00	188.00	15228.0
27	Providing and instalation at site of works P.V.C.Pipes including cost of pipes and specials and incluidng lowring into trenches, laying true to line, level and perfect linking at joints, leak proof including jointing encasing the pipe alround to a depth Not less than 15cm with grave or selected earth avalabile from the execavation Etc., Page No.15 item No.3.4.2 b PRED SR 2012-13.	Rmtr							
	75 mm dia 6 KSC PVC pipe		3	60.00			180.00		
							180.00	157.00	28260.0
28	Refilling the basement and pipeline treanches with secleted available earthe for trench excavation including authority condition in layers from thedi including disponsary of the sunplus earth with a heavy 200 mtrs Page No. 3 / Item No. 1.6 / PRED SR 2012-13	Cum							
			Qty. Vide Item No. 27						
	Basic Rate	61.00					81.00	61.00	4941.0
29	KSRB 13.6.3-6 : Providing and fixing in position brass gate valve with C.I wheel of approved quality (screwed end) 50mm nominal bore including cost of all materials, labour and HOM of equipments with all leads complete as per specifications. Specification No. KBS 13.2.6/13.3 P. 92 / I.13.37 PWD SR - 2016-17	Each							
			6						
	Basic Rate	2052.00					6	2216.16	13297.0
	Area Weightage @ 8%	164.16							
	Total	2216.16							
	ROOM FOR RO PLANT								
30	KSRB 2-2.2 : Earth work excavation for foundation of buildings, culverts water supply, sanitary line and electrical conduits either in pits or in trenches 1.5m and above in width, in Hard soil not exceeding 1.5m, in depth including dressing the bottom and sides of pits and trenches, stacking the excavated soil clear from edges of excavation with lead upto 50m, after breaking of clods complete as per specifications, specification, No, KBS 2.1(a) / 2.3.5, Page No. 5 / Item No. 2.3/ PWD SR 2016-17	Cum							
	Centre Line	3	1	18.40	0.90	0.80	39.74		
	Columns	3	4	1.50	1.50	1.20	32.40		
							72.14		
	Basic Rate	189.00					72.14	204.12	14725.0
	Area Weightage @ 8%	15.12							
	Total	204.12							
31	KSRB 4-1.3 : Providing and laying in position plain cement concrete of mix 1:4:8 with OPC cement @ 180 kgs with 40mm and down size graded granite metal coarse aggregates @ 0.85cum and fine aggregares @ 0.57 cum machine mixed, concrete laid in layers not, exceeding 15cms, thick, well compacted, in foundation and plinth, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1,4.2. No. 12/ Item No. 4.3/ PWD SR 2016-17	Cum							
	Wall Portion	3	1	18.40	0.90	0.15	7.45		
		3	4	1.50	1.50	0.15	4.05		
	For Flooring	3	1	4.70	4.10	0.15	8.67		

							20.17		
	Basic Rate	4867.00					20.17	5256.36	106021.0
	Area Weightage @ 8%	389.36							
	Total	5256.36							
32	KSRB 5.2.3 : Providing and constructing granite / trap / basalt size stone masonry in foundation with cement mortar 1:6, stone hammerd dressed in courses not less than 20 cms high, bond stones at two m. apart in each course including cost of materials, labour, curing complete as per specifications.KBS 5.1.13 Page No. 23 / Item No. 5.6 / PWD SR 2016-17								
		Cum							
	Wall Portion	3	1	18.40	0.75	0.60	24.84		
	Deduction for Columns	3	4	1.50	0.75	0.60	-8.10		
							16.74		
	Basic Rate	4187.00					16.74	4521.96	75698.0
	Area Weightage @ 8%	334.96							
	Total	4521.96							
33	KSRB 5.3-3 : Providing and constructing granite / trap / basalt size stone masonry in basement with cement mortar 1:6, edges of stones chistle dressed in courses not less than 15 cms high, bond stones at two m. apart in each course including cost of materials, labour, curing complete as per specifications.KBS 5-1.13 Page No. 23 / Item No. 5.9 / PWD SR 2015-16								
		Cum							
	Wall Portion	3	1	18.40	0.45	0.45	11.17		
	Deduction for Columns	3	4	1.50	0.45	0.45	3.64		
							14.81		
	Basic Rate	5005.00					14.81	5405.40	80054.0
	Area Weightage @ 8%	400.40							
	Total	5405.40							
34	KSRB 2.3 : Filling available excavated earth (excluding rock) in sides of foundations upto plinth in layers not exceeding 20 cms. in depth, compacting each deposited layer by ramming after watering with lead upto 50 m. and lift upto 1.5 m. including cost of all labour complete as per specifications. Specification No. KBS 2.9 (P.6/I.2.10) PWD SR 2016-17								
		Cum							
		Qty Vide Item No. 30					72.14	137.16	9895.0
	Basic Rate	127.00							
	Area Weightage @ 8%	10.16							
	Total	137.16							
35	KSRB 5-11 : Providing and constructing load bearing wall with solid concrete blocks of size 400x200x200 mm having block density not lessthan 1800 kg/m3 and having a minimum average compressive strength 5.00 N/mm2 confirming to IS 2185 (Part) : 2005 and constructed with CM 1:4 , as per IS 2572:2005 including cost of all materials, labour charegs, scaffolding, curing complete as per specifications. KBS No.5.4. Page No. 25 / Item No. 5.27 / PWD SR 2016-17								
		Sqm							
	Wall Portion	3	2	5.10		3.00	91.80		
		3	2	4.10		3.00	73.80		
	Parapet Wall	3	2	5.10		0.40	12.24		
		3	2	4.10		0.40	9.84		
	Steps	3	4	4.10		0.10	4.92		
							192.60		
	Deductions RS	3	1	3.04		2.50	22.80		
	V	3	2	0.90		0.60	3.24		
							-26.04		
							166.56		
	Basic Rate	937.00					166.56	1011.96	168552.0

	Area Weightage @ 8%	74.96								
	Total	1011.96								
36	KSRB 4.2.2 : Providing and laying in position reinforced cement concrete of design mix M20 with OPC cement @ 320 kgs, with 20mm and down size graded granite metal, coarse aggregates @ 0.878 cum and fine aggregates @ 0.459 cum with superplastisiser @ 3lts confirming to IS 9103-1999 reaffirmed-2008 machine mixed, concrete laid in layers not exceeding 15cms thick, vibrated for all works in foundation plinth and ground floor level for roof slabs, staircase, lintels, retaining walls, walls (any thickness) including attached plasters, column, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window cills, fillets etc, including cost of all materials, labour, HOM of machinery, curing, complete as per specifications. Specification No. KBS 4.1,4.6, No. 13/ Item No. 4.11/ PWD SR 2016-17									
		Cum								
	Column Footing	3	4	1.20	1.20	0.50	8.64			
		3	4	0.23	0.23	3.80	2.41			
	Plinth Beam	3	1	18.40	0.20	0.20	2.20			
	Lintels	3	1	18.40	0.20	0.15	1.65			
	Roof Slab	3	1	5.55	4.50	0.125	9.36			
							24.26			
	Basic Rate	6011.00					24.26	6491.88	157493.0	
	Area Weightage @ 8%	480.88								
	Total	6491.88								
37	KSRB 4.2.10 : Providing and laying in position reinforced cement concrete ofmix M20 with OPC cement @ 24kgs, with 12 mm and down size graded granite metal coarse aggregates @ 0.5175 cum and fine aggregates @ 0.345 cum with superplastisiser @ 0.225lts,machine mixed, well compacted for plain chajja of 7.5 cms. average thickness, upto ground floor lever, including cost of all materials, labour, HOM of machinery, curing, complete as per specification. Specification NO. KBS 4.1, 4.6 Page No. 14 / Item No. 4.19 / PWD SR 2016-17									
		Sqm								
	W	3	1	4.50	0.45		6.07			
							6.07			
	Basic Rate	456.00					6.07	492.48	2989.0	
	Area Weightage @ 8%	36.48								
	Total	492.48								
38	KSRB 4.9.1: Providing TMT steel reinforcement for R.C.C work including straightening, cutting, bending, hooking, placing in position, lapping and / or welding wherever required, tying with binding wire and anchoring to the adjoining members wherever necessary complete as per design (laps, hooks and wastage shall not be measured and paid) cost pf materials, labour, HOM of machinery complete as per specifications.Specification No. KBS 4.6.3 Page No. 17 / Item No. 4.46.2 / PWD SR 2016-17 - FE 500									
		Ton								
	For Roof, Columns Beams @ 100 Kg / Cum	1	100.00	24.26			2426.00			
	Chajjas @ 7.5 Kg / Cum	1	7.500	6.07			45.52			
							2471.52			
	Basic Rate	69520.00					2.471	75081.60	185527.0	
	Area Weightage @ 8%	5561.60								
	Total	75081.60								

39	KSRB 4-6.4 : Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for vertical surface such as walls at any thickness, including attached pilasters, buttresses, plinth and string courses cost of all materials, labour complete as per specifications. Specification NO KBS 4.6.2 Page No. 15 / Item No. 4.31/ PWD SR 2016-17	Sqm							
	Columns Footing	3	4	4.80		0.50	28.80		
		3	4	0.92		4.00	44.16		
	Plinth	3	1	18.40		0.20	11.04		
	Lintels	3	1	18.40		0.15	8.28		
	Roof	3	1	5.55	4.50		74.92		
	Sides	3	2	5.55		0.15	4.99		
		3	2	4.50		0.15	4.05		
							176.24		
	Basic Rate	293.00					176.24	316.44	55769.0
	Area Weightage @ 8%	23.44							
	Total	316							
40	KSRB 4-6.10 : Providing and removing centering, shuttering, strutting, propping etc., for chajjas, corbels etc., including edges including cost of all materials, labour complete as per specifications. Specification NO KBS 4.6.2 Page No. 16 / Item No. 4.37 / PWD SR 2016-17	Sqm							
		3	1	4.50	0.60		8.10		
							8.10		
	Basic Rate	270					8.10	291.60	2362.0
	Area Weightage @ 8%	22							
	Total	292							
41	KSRB 15.3.13 : Providing 12mm thick cement plaster in single coat with cement mortar 1:3, to ceiling including rounding off corners wherever required smooth rendering, : Providing and removing scaffolding, including cost of materials, labour, curing complete as per specifications. Page No. 114 / Item No. 15.21 / PWD SR -2016-17	Sqm							
		3	1	4.70	4.10		57.81		
	Basic Rate	193					57.81	208.44	12050.0
	Area Weightage @ 8%	15							
	Total	208							
42	KSRB 15.3.11 :Providing 20mm thick cement plaster in single coat with cement mortar 1:4, to stone masonry including rounding off corners wherever required smooth rendering, : Providing and removing scaffolding, including cost of materials, labour, curing complete as per specifications. Page No. 114 / Item No. 15.19 / PWD SR 2016-17 (Inside wall)	Sqm							
	Inside wall	3	2	4.70		3.00	84.60		
		3	2	4.10		3.00	73.80		
							158.40		
	Deductions - For rolling shutter	3	1	3.04		2.50	22.80		
	ventilators	3	2	0.90		0.60	3.24		
							-26.04		
							132.36		
	Basic Rate	234					132.36	252.72	33450.0
	Area Weightage @ 8%	19							
	Total	253							
43	KSRB 15-7 : Providing lime rendering for plastering to wall and ceiling, including cost of materials, labour, curing complete as per specifications. (P. 115 / I. 15.33 PWD SR - 2016-17).	Sqm							

			Qty Vide Item No. 14+15				190.17	27.00	5135.0
	Basic Rate	25							
	Area Weightage @ 8%	2							
	Total	27							
44	KSRB 15.3.9: Providing 18mm thick cement plaster in single coat with cement mortar 1:6, to brick masonry including rounding off corners wherever required smooth rendering, providing and removing scaffolding, including cost of materials, labour, curing complete as per specifications Page No. 114 / Item No. 15.17 / PWD SR 2016-17 (Out side Wall)	Sqm							
	Out Side	3	2	5.10		3.45	105.57		
		3	2	4.50		3.45	93.15		
							198.72		
	deduction for RS	3	1	3.04		2.50	22.80		
	V	3	2	0.90		0.60	3.24		
							-26.04		
							172.68		
	Basic Rate	198					172.68	213.84	36926.0
	Area Weightage @ 8%	16							
	Total	214							
45	KSRB 15-14.1 : Providing and applying two coats with oil bound washable distemper of approved brand and shade on wall surface including priming coat with distemper primer after thoroughly brooming the surface free from mortar drops and other foregin matter including preparing the surface even and sand paper smooth, cost of materials, labours, complete as per specifications PWD SR 2016-17 (P.117 /I. 15.49.1)	Sqm							
			Qty Vide Item No.13+14				322.53		
	Basic Rate	71					322.53	76.68	24732.0
	Area Weightage @ 8%	6							
	Total	77							
46	KSRB 15-16.1: providing and finishing external walls in tow coats with water proof cement paint of approve brand and shade to give an even shade after thourghly brooming the surface to remove all dirt and losse powdered material, free from mortar dops and other foreign matter cost of materials, labours, complete as per specifications PWD SR 2016-17 (P. 118 / I. 15.53.2) with Primer	Cum							
			Qty Vide Item No.16				172.68		
	Basic Rate	84					172.68	90.72	15666.0
	Area Weightage @ 8%	7							
	Total	91							
47	KSRB 15-18.2 : Providing and applying enamel metal paint two coats (excluding priming coat) over new steel or other metal surface brushing to give an even shade after cleaning oil, grease, dirt and other foreign matter, including cost of materials, labour, complete as per specifications. Page No. 121 / Item No. 15.74 / PWD SR 2016-17	Sqm							
	Out Side	2	3	6.04		2.50	101.92		
		3	2	0.90		0.60	3.24		
							105.16		
	Basic Rate	82.00					105.16	88.56	9313.0
	Area Weightage @ 8%	6.56							
	Total	88.56							

48	Providing and fixing Special make glazed Vitrified tiles (Granomite finis) of approved make, quality and colour of sized 6000x600x10mm thick fixed on existing flooring wit ha special roffe adhesive for flooring and skirting etc., complete including providing spears at required interval and removing stains etc., complete. Page No. 107 / Item No. 14.43 / PWD SR 2016-17	Sqm								
		3	1	4.70	4.10		57.81			
		3	2	4.70		1.50	42.30			
		3	2	4.10		1.50	36.90			
	Deduction RS						137.01			
		3	1	3.05		1.50	-13.72			
							123.29			
	Basic Rate	1190.00					123.29	1285.20	158452.0	
	Area Weightage @ 8%	95.20								
	Total	1285.20								
49	Providing and laying/fixing cement base, precast pre polished cement concrete, designer tiles 25mm thick conforming to IS 1237 heavy duty tiles for flooring reads of steps of steps and landin, laid on a bed of 12mm thick cement mortar 1:3 mis finished with flush pointing using white cement, including cost of material,s including cutting, griding the edge ti half/ful rounf wherever requires labour, curing complete as per specification Page No. 109 / Item No. 14.62 / PWD SR 2016-17	Sqm								
		3	4	2.50		0.45	13.50			
							13.50			
	Basic Rate	1085.00					13.50	1171.80	15819.0	
	Area Weightage @ 8%	86.80								
	Total	1171.80								
50	KSRB 7.7 : Providing and fixing in position in cement concrete 1:3:6 steel glazed windows and ventilators side hung/top hung fully openable as per approved drawings using Z angles of 25x33x3mm, weighing 1.419Kg/m both for outer and inner frames and central mullion section of size 25x46x3mm weighing 2.28Kg/m duly providing T section 19x19x3mm weighing 0.839 kg/m for glazing of windows not more than 34 cms. c to c including providing and fixing 4mm thick reeded glass with teakwood beading of required size, all steel section should confirm to I.S. 7452:1990, 4nos, of holdfasts of approved size section should be cut to length welded and electrically grinded subdividing frames of unit shall be tenonned and revetted into the frames electrically. All the steel surface shall be thoroughly cleaned free of rust and painted with one coat of anti-corosive paint and finishing with two coats of ready mix paint of approved colour and make including cost of materials, fixtures, labour and HOM of machinery complete as per spe	Sqm								
		3	2	0.90		0.60	3.24			
							3.24			
	Basic Rate	3530.00					3.24	3812.40	12352.0	
	Area Weightage @ 8%	282.40								
	Total	3812.40								

51	KSRB: 7.5 Providing and fixing pull and push type rolling shutters of approved make out of 18 guage, 75mm wide cold rolled steel laths of convex corrugation, with side guides and bottom rail, with interlocking arrangements for steel laths by means of alternate clips, suspension shaft with High tension coil type springs two numbers, mounted on specially designed pipe shaft, with bracket plates, guide channels, ball bearing arrangements, for inside & outside locking with push & operations complete Including pulling hooks, 4nos handles wit hall fittings and accessories, painted with a coat of red lead paint (without top cover) cost of materials, labour, HOM of machinery complete as per specifications. Shutter size 3mx2.8m Specification NO. KBS 7.10 / 7.12 Page No. 31 / Item No. 7.5/ PWD SR 2015-16	Sqm							
		3	1	3.00		2.50	22.50		
							22.50		
							22.50	3090.96	69547.0
	Basic Rate	2862.00							
	Area Weightage @ 8%	228.96							
	Total	3090.96							
52	Providing R.O. Plant								
	Providing revsrse osmosis system to cover 2000 Liters of High TDS water per hour								
	TECHNICAL SPECIFICATIONS								
	Flow Rate:								
	Feed Water : 5000 LPH								
	Treated Water : 3000 LPH								
	Reject Water : 2000 LPH								
A	RAW WATER PUMP								
	Purpose:- To feed the Dual Medial filter at pressure more than 2.00 bars which is min operating pressure for filter?								
B	SAND MEDIA FILTER								
	Purpose:- To remove the total suspendred solids, dirt, iron and reduce silt density index which can foul the members								
C	ACTIVATE CARBON FILTER								
	Purpose:- To remove the total color, smell, odor from the water.								
	Media: Mixed bed sand media consisting of the following i) Gravel ii) Pebbles iii) carbon Average porosity 50 micron particulate size bed depth : 1500 mm pipelines & Accessories : Pipe of PVC 10 Bar tested pressure testing cock & pressure gauges at intlet - outlet of system								
	DOSING SYSTEM								
	Purpose : To dose anti scaling chemical to protect the scaling formation on RO Membranes								
D	MICRON FILTER								
	Purpose : To remove the fine particles ip to 05 microns and reduce silt density levels to acceptable level.								
E	HIGH PRESSURE PUMP								
	Purpose : To feed the reverse Osmosis membrane at pressure more than the osmotic pressure taking into consideration flux rate, flow and recovery								
	RO membrane housing.								
	Purpose : To pack membrane and operate at high pressure.								
	RO MEMBRANES								
	Purpose : To remove the major part of TDS into 98% by Reverse Osmosis Membranes arranged and designed to give adequate flow the Recovery.								

	RO CLEANSING SYSTEM								
F	ELECTRICAL PANEL								
	Purpose : A control panel is provided as a safety measure for the pumps & other electrical items.								
	Specifications a) Complete starters, overload relays, b) Voltmeter, Ammeter, MCB's indicating lights, c) Rocker switches for Dozers, d) incomers, Auto-Manual switches.								
	INSTRUMENTATION								
	Purpose : a) Flow meter : To measure the online flow of water flowtec b) Low pressure switch : To protect RO pump from dry running c) High pressure switch : To protect RO pump from back pressure d) Pressure Gauges : For calculate AP for each unit in RO system								
	PH DOSING SYSTEM								
	Purpose to dose sodium Bi-carbonate for enhances product water SS till the pre-filteration & SS from HPP to thhe premeter line termination point NRV's pressure relief valves, wherever needed the system will be on common SS base frame supply & manufacture of complete Reverse Osmosis plant stainless steel tank (2kl) Raw water tank (5kl) with stainless steel pipe line required for plant erection.	Nos	3	1					
	ELECTRIFCATION								
53	Supplying and wiring adopting loop system in existing PVC Conduit / casing capping using 1100V grade, COPPER conductor flexible multistrand FRLS PVC insulated, 2 X1.5Sq.mm Cable confirming to the GTP, with a 6Amps flush type SP control switch shall be fixed on the existing plastic sheet / gang box, the other end of the wires shall be terminated with sufficient loose length in a wood/PVC round block. complete for each outlet. GROUP A (Page No. 05, Item No.2.1 KPWD SR 2014-15						3.00	515000	1545000.0
	b) Medium point above 3Mtr upto 6Mtr from tapping point to out let via switch	Point	2	3			6.00	245.0	1470.0
	c) Long point above 6Mtr upto 10Mtr from tapping point to out let via switch	Point	2	3			6.00	363.0	2178.0
54	Supplying and flush mounting teak wooden box without front plank, made of not less than 12mm thick wood, after due groove cutting, Finishing with necessary cement plastering complete (Page No. 03, Item No. 1.6) KPWD SR 2014-15								
	(1.6.5) 4"x4"x3" (101x101x76mm)	Each	12	3			36.00	68.0	2448.0
	(1.6.1) 12"x12"x3" (300x300x76mm)	Each	6	3			18.00	116.0	2088.0
	(1.6.3)10"x7"x3" (254x178x76mm)	Each	6	3			18.00	87.0	1566.0
55	Supplying 4mm thick plastic sheet with necessary nitches for fixing switches, regulators etc., and fixing on existing wooden or metal box using N.F. screws. (Page No. 17, Item No. 3.9) KPWD SR 2014-15	SqCM	3	6666.66			20000	0.3	5000.0
56	Extra for Groove cutting in brick wall/CC floor to the suitable depth for concealing of Conduit/GI pipe and plastering, finishing upto wall surface complete. upto 50mm conduit in brick wall (Page No. 03, Item No.1.7.1) KPWD SR 2014-15	Mtr	3	10			30.00	21.0	630.0

57	Supplying heavy gauge PVC Conduit Pipe 19/20 mm dia 2 mm thick with suitable size bends, metal junction boxes adhesive paste etc., by groove cutting in the wall and fixing by bracing U or J hooks and cement plastering up to the wall surface and run with 18 SWG GI fish wire run throughout the conduit wherever necessary. (Page No. 02, Item No. 1.3.1) KPWD SR 2014-15	Mtr								
58	Supplying and fixing PBBC/Bakelite straight or slant batten holder and wiring with 60w/230 volts lamps. (Page No. 20, Item No. 4.2) KPWD SR 2014-15	Each	3	10			30.00	56.0	1680.0
59	Supplying patti type fluorescent tube light fitting of 2' - suitable for 14 watts fluorescent tube fitting, made out of M.S. Sheet and stove enameled with HF Electronic Ballast , locking type brass contact holders mounted on double fold type sheet base fully wired for use on 230 volts AC . Supply including T5 lamp. (Page No. 20, Item No. 4.5) KPWD SR 2014-15	Each	6				6.00	88.0	528.0
60	Wiring for lighting/power circuit using one of FRLS PVC insulated 1100V grade, multistrand Copper with low conductor resistance single core wire in open or concealed system of wiring with specified IS-694:1990 & confirming to GTP of GROUP -A 1.5 sqmm (Page No. 06, Item No. 2.5.2) KPWD SR 2014-15	Mtr	12				12.00	591.0	7092.0
61	Supplying and fixing cast Aluminum round or oblong type bulk head fitting with GI wire guard, glass cover with 60/100 watts 230V GLS lamp. (Page No. 20, Item No. 4.3) KPWD SR 2014-15	Each	3	5			15.00	18.6	279.0
			12				12.00	747.0	8964.0

62	Supplying, fixing, wiring, earth electrode for grounding conduits, I.C. cutouts and other equipment's on the meter board using 40mm dia 2.90mm thick GI pipe 2.5 mtr long buried in a pit ... The pit should be filled with equal proportion of salt and charcoal 150mm all-round the pipe to complete depth. The connection from the pipe to the conduit etc., is to be established through GI wire of size as per ISI specification 7.3.3. of IS 732 using 12mm dia bolts, nuts, washers and check nuts etc., the pipe shall have 16 through holes of 122 mm dia (Page No. 55, Item No. 7.1) KPWD SR 2014-15	No	3				3.00	2727.0	8181.0
63								Total Construction Cost	4353031.000
64								Cost towards Preparation of DPR LS	43531.00
65								Cost towards PMC / Third Party inspection LS	43531.00
66								Cost towards BESCOM deposite Charges for Borewell LS	24000.00
67								Cost towards BESCOM deposite Charges for RO Plant LS	18000.00
								Sub Total	4499238.00
								Miscellaneous and rounding off	762.00
								Total	4500000.00

Certificate.

1 The rates adopted based on the PWD SR, Bangalore circle for year 2016-17.
2 The provisions made in the estimate are necessary and essential.
3 The workspot was inspected and work is found to be necessary.
4 The area comes within the Bruhat Bangalore Mahanagara Palike limits.

Tejus Consultants

Assistant Engineer

Assistant Executive Engineer

Executive Engineer

nsultants